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FRANK NGUYEN
VICE PRESIDENT AND GENERAL COUNSEL
INTUITIVE SURGICAL, INC.
950 KIFER ROAD
SUNNYVALE, CA 94086

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| EXAMINER |
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GARLAND, STEVEN R

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| ART UNIT | PAPER NUMBER |
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2125

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,406

Applicant(s)

NIEMEYER ET AL.

Examiner

Steven R. Garland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/13/05, 5/27/05, 5/23/05, 3/4/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1,2,4-6,8 and 9 are pending. Claims 3 and 7 have been canceled. Claims 8 and 9 are withdrawn.
2. The information disclosure statements (IDS) submitted on 3/4/05 and 5/27/05 were filed after the mailing date of the first non final office action on 1/24/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.
3. The information disclosure statement filed 6/13/05 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it lacks either certification or the required fee as specified in 37 CFR 1.97 since it was filed after the first action on the merits. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).
4. Remarks: the information disclosure statement filed 6/13/05 is contradictory in several aspects. In regards to the cover sheet it is uncertain if the information disclosure statement even belongs in the instant application since only the serial number for the instant application matches. The elements that do not match the corresponding elements in the instant application are: for example Wang is not an

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inventor, the filing date is different, the attorney docket number does not match the docket number for the IDS filed 5/27/05, the group art unit number is wrong, and even the title is incorrect. The second page also gives a different serial number, filing date, inventor, etc. than the instant application.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. . Although the conflicting claims are not identical, they are not patentably distinct from each other because .

7. Claims 1,2, and 4- 6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-39 of U.S. Patent No. 6,671,581. Although the conflicting claims are not identical, they are not patentably distinct from each other because for example comparing instant claim 1 to claim 9 of the patent both are directed to a robotic system; both have a master controller having an input device moveable in a controller workspace; both have a slave

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having an end effector, a linkage supporting the end effector and at least one actuator; both have an imaging system that generates state variable signals; both map the input device into the working space, both use of a transformation, and both have a processor coupling the master controller to the slave arm.

The patent claim however does not positively require that the transformation be changed in response to a tool change while instant claim 1 requires it or state the number of degrees of freedom.

It would have been obvious to one of ordinary skill in the art to modify the patent claim to change the transformation when a tool is changed to a selected alternative tool. Further it would have been obvious to one of ordinary skill in the art to modify the patent claim and use a slave with fewer degrees of freedom than the master. This would allow the same user interface to be used with the various kinematically dissimilar tools.

Similar comparisons can be made for the other claims.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1,2,4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green 5,808,665 in view of Green 5,631,973 in further view of Nose et al. 5,053,976.

Green 5,808,665 teaches a robotic surgical system with a slave, a master, an imaging system, a processor, and mapping the image of the end effector to the operator control space. See the figures; col. 1, lines 56-62; col. 2, lines 3-37; col. 3, lines 26-58; col. 4, lines 6-21; col. 4, line 66 to col. 5, line 47; col. 6, lines 19-36; col. 7, lines 51-54; col. 8, lines 44-57; col. 10, line 61 to col. 11, line 65. Green however does not go into details about the coordinate transformation process.

Green 5,631,973 teaches a robotic surgical system which uses coordinate transformation, a slave, a master, an image capture system, a processor, and mapping the image of an end effector to the operator control space. See the figures; col. 1, line 31 to col. 2, line 10; col. 3, lines 16-62; col. 4, line 6 to col. 5, line 12; col. 6, lines 7-15; col. 7, lines 25-35; and col. 7, line 58 to col. 8, line 9.

It would have been obvious to one of ordinary skill in the art to modify Green in view of Green and use a coordinate transformation process to implement the mapping process.

While Green 5,631,973 does not expressly state that a remapping is performed when the imaging system is moved. Green 5,631,973 however discloses in col. 3, lines

16-62 for example, that the coordinate transformation is based in part on the imager state.

It would have been obvious to one of ordinary skill in the art to modify Green in view of Green and compute a new transformation when the imager is moved changes its state so that the coordinate transformation reflects the actual conditions and gives correct results.

Green 5,808,665 also teaches that the manipulators can have various degrees of freedom (col. 8, lines 44-57); that various types of tools can be used (col. 7, lines 50-54); and that various types of hand controls and manipulators can be used (col. 11, lines 1-67).

Green 5,808,665 however does not expressly show the use of manipulators with different degrees of freedom or show exchanging tools.

It would have been obvious to one of ordinary skill in the art to modify the Green combination in view of the express teachings in the 5,808,665 patent and use a manipulator which is kinematically dissimilar for ease in constructing the device and for reducing the chance of incorrect motion.

Nose et al. teaches changing the coordinate transformation in response to a change in tools. See col. 4, lines 27-45, for example.

It would have been obvious to one of ordinary skill in the art to modify Green in view of Nose and change the coordinate transformation in response to a change in tool so that the transformation reflects the tool that is in use and to prevent injury to the patient.

In response to applicant's arguments, the examiner has provided a motivation to use a reduced number of degrees of freedom in the slave that would be apparent to one of ordinary skill in the art. Further additional motivations to use the a reduced number of degrees of freedom in the slave compared to the master is that the additional degrees of motion in the master can be used to control auxiliary functions in the slave such as turning on/off of irrigation/suction; variable control of the rate of irrigation or suction; or turning power on/off to a coagulator.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

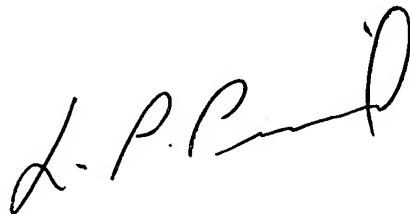
In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R. Garland whose telephone number is 571-272-3741. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



5726
Steven R Garland
Examiner
Art Unit 2125

8/2/05

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100